

Serial No. **10/743,778**
Amendment dated **August 2, 2007**
Reply to Office Action of **April 16, 2007**

Docket No. **K-0597**

REMARKS/ARGUMENTS

By this Amendment, claims 1 and 4 are amended and claim 3 is canceled without prejudice or disclaimer. Currently, claims 1, 2, and 4-10 are before the Examiner for consideration on their merits.

Entry of the amended claims is proper under 37 C.F.R. §1.116 since the amendments: (1) place the application in condition for allowance (for the reasons discussed herein); (2) do not raise any new issues requiring further search and/or consideration (since the amendments amplify issues previously discussed throughout prosecution without incorporating additional subject matter); (3) satisfy a requirement of form asserted in the previous Office Action; and/or (4) place the application in better form for appeal (if necessary). Entry is thus requested.

More particularly, the revision to claim 1 incorporates the subject matter of claim 3 therein. Since claim 3 was already before the Examiner for consideration on its merits, this revision does not raise any new issues that would require further consideration or search. At the least, this amendment should be entered for purposes of appeal. Claim 4 is revised in light of the cancellation of claim 3 and to more correctly define B1 and B2.

In the outstanding Office Action, claims 1, 2, and 6-10 remain rejected under 35 U.S.C. §102(b) over U.S. Patent No. 5,153,073 issued to Ohnuma et al. (hereinafter "Ohnuma").

Claims 3-5 are rejected under 35 U.S.C. §103(a) over U.S. Patent No. 5,935,721 issued to Shi et al. (hereinafter "Shi") in view of Ohnuma.

By the revision to claim 1, the rejection based on Ohnuma is now moot, and the only issue for consideration is whether the combination of Ohnuma and Shi establish a *prima facie* case of obviousness.

It is respectfully submitted that Ohnuma and Shi do not teach or suggest the invention as now defined in claim 1, as amended. This claim now requires not only that the emitting layer includes a blue emitting material having a dopant material corresponding to chemical formula 1 but also that the material forming the emitting material has chemical formula 2. The emitting material is further limited by the definitions of B1, B2, and X.

Turning now to the rejection, the Examiner's position can be summarized as follows:

- 1) Shi teaches an emitting layer as an anthracene derivative that reads on the claimed emitting layer, alleging that H16 in claim 5 is indistinguishable from the compound taught in Shi.
- 2) Shi teaches that the host material can be doped with one or more fluorescent dyes, and cites an example of a blue dopant in the form of a conjugated benzenoid, relying on col. 48, lines 3-23.
- 3) The Examiner admits that Shi does not teach the use of the specifically claimed material of claim 1 in combination with the emitting layer disclosed in Shi.
- 4) The Examiner contends that Ohnuma teaches a conjugated benzenoid that is identical to the dopant of claim 1.

5) The Examiner contends that it would be within the skill of the art to select suitable dopants, including conjugated benzenoids for use with the emitting layer of Shi. Since Ohnuma teaches a conjugated benzenoid, the Examiner concludes that its use in Shi is obvious.

6) Lastly, the Examiner notes that no evidence is provided to show that the combination of the emitting material and the dopant of claim 3 produces unexpected results to rebut the allegation of obviousness.

Applicants contend that the rejection is flawed as lacking the requisite reasoning required to formulate a rejection under 35 U.S.C. § 103(a). Put another way, the Examiner does not have a reason to pick the material of Ohnuma and employ it as a dopant in Shi.

First, Ohnuma does not teach using the disclosed organic compound layer as a dopant. Instead, the organic compound layer of Ohnuma is just that, a layer in an electroluminescent device. Figure 1 of Ohnuma shows the organic compound layer, with Figures 2 and 3 showing multiple layers. While Ohnuma suggests that other materials can be combined with the organic compound layers, see col. 12, lines 19-26, these materials are characterized as polymer binders for film forming. There is no suggestion that the organic compound layer is considered a dopant in an emitting material. Therefore, why would one of skill in the art modify the teachings of Ohnuma and use the disclosed organic compound layer material as a dopant in the emitting material of Shi?

While it is true that Shi teaches that Shi's emitting layer can be doped and provides some general guidelines as to what types of dopants can be used, it is submitted that the teachings of Shi must be taken in the context of dopants, not just any conjugated benzenoids. In col. 48, lines 16-20, Shi provides a listing of possible dopants, none of which specifically teach the dopant recited in claim 1. The only commonality between the claim 1 dopant and the disclosure of Shi is the mention of "other conjugated benzenoids" in Shi. Applicants contend that the teachings of Shi must be interpreted in the context of other conjugated benzenoid dopants, not just any conjugated benzenoids. The Examiner impermissibly gives Shi an unwarranted expansive scope to contend that Shi's suggestion allows virtually any type of conjugated benzenoid to be used as a dopant with the emitting layer material of Shi.

As previously argued, Ohnuma does not teach that the disclosed organic compound layer is suitable as a dopant in a host or emitting layer. Again, why would one of skill in the art, select the material of Ohnuma, which is intended as an organic compound layer and use it as a dopant in the emitting material of Shi? There just is no reason to do so without using hindsight to formulate the rejection. It is well settled that the use of hindsight in formulating an obviousness rejection approach is an improper approach under current patent law, and a rejection based on the use of hindsight could not be sustained on appeal.

Applicants also wish to point to the comparative testing disclosed in paragraphs [0075-87] of the instant specification. Here, two embodiments according to the invention are compared to

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a comparative embodiment to demonstrate the improvements associated with using the material corresponding to chemical formula 1 in an organic electroluminescent device. This comparison reveals that when practicing the invention and using the combination of the claimed emitting material and the claimed dopant, a high luminescent efficiency is obtained along with high color impurity. This demonstration weighs in favor of the patentability of the claims by showing that improved results are obtained when practicing the invention, and that these improvements are nowhere to be found within the four corners of either Shi or Ohnuma.

CONCLUSION

In view of the foregoing amendments and remarks, it is respectfully submitted that the rejection based on the combination of Shi and Ohnuma is improper and must be withdrawn in favor of the allowance of claim 1, as amended, and its dependent claims. Favorable consideration and prompt allowance are earnestly solicited.

If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney, **Daniel Y.J. Kim**, at the telephone number listed below.

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To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
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